

Appln. No.: 10/082,950
Response dated Mar. 6, 2006
Reply to Office Action of Oct. 4, 2005

REMARKS

Claim Rejections under 35 U.S.C. § 102

Claims 1-4, 11-14, and 17 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Yang et al (US 2002/0140853).

With regard to the anticipation rejections, MPEP 2131 states that “[a] claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). MPEP 2131 also states that “[t]he identical invention must be shown in as complete detail as is contained in the . . . claim.” *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

Regarding independent claim 1 and its dependent claims (i.e., claims 2-10), claim 1 recites: “[a] method of converting a first digital audio signal at a first sampling rate to a second digital audio signal at any of a plurality of sampling rates that are higher than said first sampling rate, said method comprising: up-sampling said first digital audio signal by an up-sampling factor to generate an up-sampled audio signal; low-pass filtering said up-sampled audio signal using a fixed set of filter coefficients to generate a filtered audio signal; and down-sampling said filtered audio signal by any of a plurality of down-sampling factors corresponding to said plurality of sampling rates, wherein each of said plurality of down-sampling factors is lower than said up-sampling factor, to generate said second digital audio signal at any of said plurality of audio sampling rates.”

It is respectfully submitted that the referenced art, Yang, fails to disclose the claimed invention of claim 1. More specifically, for example, Yang fails to disclose a filter with a fixed set of filter coefficients. Instead, Yang discusses a converter having “an interpolation filter 113, in which a fixed filter coefficient is used,” and then explains that “filter coefficients corresponding to a plurality of conversion rates are stored in a filter coefficient storage unit” (page 1, paragraph [0006]). Yang then presents a formula for determining the coefficient used in the filter, by which the filter coefficient is variable depending on conversion rate (page 1, paragraph [0007]) and the filter can have variable lengths depending on the conversion rate (page 1, paragraph [0012]). Therefore, Yang, in discussing Fig. 1, which the Examiner references,

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discloses a system with coefficients corresponding to multiple filters. Additionally, Yang fails to disclose a "method of converting a first digital audio signal at a first sampling rate to a second digital audio signal at any of a plurality of sampling rates" comprising up-sampling a signal by an up-sampling factor and down-sampling by "any of a plurality of down-sampling factors... wherein each of said plurality of down-sampling factors is lower than said up-sampling factor."

Regarding independent claim 11 and its dependent claims (i.e., claims 12-20), claim 11 recites: "[an] Apparatus for converting a first digital audio signal at a first sampling rate to a second digital audio signal at any of a plurality of sampling rates that are higher than said first sampling rate, said apparatus comprising: a memory storing a fixed set of digital filter coefficients; a low-pass filter applying said fixed set of digital filter coefficients to said first digital audio signal to generate a filtered audio signal; and a linear interpolator generating an accumulated linear interpolation ratio and applying said accumulated linear interpolation ratio to said filtered audio signal to generate said second digital audio signal at any of said plurality of sampling rates wherein said plurality of sampling rates are higher than said first sampling rate."

It is respectfully submitted that the referenced art, Yang, fails to disclose the claimed invention of claim 11. More specifically, for example, Yang fails to disclose a filter with a fixed set of digital filter coefficients. Instead, Yang discusses a converter having "an interpolation filter 113, in which a fixed filter coefficient is used," and then explains that "filter coefficients corresponding to a plurality of conversion rates are stored in a filter coefficient storage unit" (page 1, paragraph [0006]). Yang then presents a formula for determining the coefficient used in the filter, by which the filter coefficient is variable depending on conversion rate (page 1, paragraph [0007]), and the filter can have variable lengths depending on the conversion rate (page 1, paragraph [0012]). Therefore, Yang, in discussing Fig. 1, which the Examiner references, discloses a system with coefficients corresponding to multiple filters. Additionally, Yang fails to disclose low-pass filtering an input audio signal, and "a linear interpolator generating an accumulated linear interpolation ratio and applying [the] accumulated linear interpolation ratio to [the] filtered audio signal to generate [a] digital audio signal at any of [a] plurality of sampling rates wherein said plurality of sampling rates are higher than" the sampling rate of the input audio signal. Instead, Yang, in Fig. 1, which the Examiner references, shows a system that is typically an "image scaler" having an up-sampler, an interpolation filter, and a

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down-sampler (Fig. 1), and discusses up-sampling an input signal, applying a low-pass filter to the up-sampled signal, then down-sampling the signal.

Claim Objections

The Examiner has objected to claims 5-10, 15, 16 and 18-20 as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form, including all of the limitations of the base claim and any intervening claims.

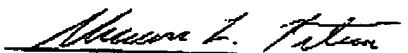
Applicants thank the Examiner for the indication that claims 5-10, 15, 16 and 18-20 would be allowable if rewritten in independent form, including all of the limitations of the base claim and any intervening claims. However, Applicants respectfully traverse the objections to claims 5-10, 15, 16 and 18-20 as being moot in light of the arguments presented hereinabove with regards to the independent claims 1 and 11 upon which claims 5-10, 15, 16 and 18-20 are dependent.

Based on at least the foregoing, Applicants believe that all pending claims are in condition for allowance and respectfully request that the application be allowed and passed to issuance. If the Examiner disagrees or has questions regarding this submission, Applicants invite the Examiner to telephone the undersigned at (312) 775-8000.

The Commissioner is hereby authorized to charge additional fees or credit overpayments to the deposit account of McAndrews, Held & Malloy, Account No. 13-0017.

Dated: March 6, 2006

Respectfully submitted,



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